## Athenæum Subject Index to Periodicals.

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Tanner (H. W. Lloyd), Mathematician.
Obituary.—Nature, 18 Mar. 1915, pp. 70-1.

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Telegraph : Wireless.

Wireless development in a wilderness [Alaska]. By J. R. Irwin.— Wireless World, June, 1915, pp. 147-52, 7 figs. See also Wireless Communication, &c.

Telegraph: Wireless-Picture Transmission.

Jan. 1915, pp. 656-8; Feb. pp. 727-30; Mar. pp. 755-9, 16 figs. Wireless World, Apr. 1915, pp. 656-8; Feb. pp. 727-30; Mar. pp. 755-9, 16 figs. Wireless transmission of photographs. By Marcus J. Martin.—Wireless World, Apr. 1915, pp. 57-60; May, pp. 102-6; June, pp. 162-5; July, pp. 228-32, 20 figs.

Teleperiscope. See POLEMOSCOPE.

Telephone : Wireless.

Principles of radiotelephony. By John L. Hogan, Jr.—Sci. Amer. 27 Mar. 1915, p. 286.

Radiotelephony. By W. C. White. [Difficulties which keep it in the experimental stage.]—Gen. Electric Rev. Jan. 1915, pp. 38-41.

See also WIRELESS COMMUNICATION, &c.

Telephotography.

Telephotography with infra-red rays. [Eliminating blue haze.] By G. Michaud and J. F. Tristran. [Ex. Sci. Amer. 26 Dec. 1914, pp. 521-2, 6 figs.]—Brit. Jl. Phot. 22 Jan. 1915, pp. 55-6. Telescope: Eyepieces.

Fluor-glass concentric eyepiece for high powers [4 mm. for telescopes]. By Lt.-Col. Gifford.—Optician, 2 July, 1915, pp. 177-8,

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Tesla Turbine. See TURBINES.

Tétanos de nos blessés. Par Dr. Maumus.-Rev. Scientifique, 2-9 Jan. 1915, pp. 4-7.

Textile Design.

Decorative textile industries and the designer's relation thereto. By Arthur Wilcock.—Jl. Roy. Soc. Arts, 19 Feb. 1915, pp. 271-

Arthur Wilcock.—31. Koy. Soc. Arts, 19 Feb. 1919, pp. 241-284; 26 Feb. pp. 320-1; 5 Mar. pp. 346-8.

Photokaleidograph. An apparatus for producing kaleidoscopic pictures. [Changes in kaleidoscope are photographed, and patterns produced for textile purposes.]—Sci. Amer. Suppt. 2 Jan. 1915, pp. 12-3, 3 figs.

Textile Fabrics: Waterproofing. See WATERPROOFING OF FABRICS. Textile Fibres. See FIBRES.

Textile Industry and Fabrics.

Textile industries of Great Britain and Germany. By J. A. Hunter.-Jl. Roy. Soc. Arts, 22 Jan. 1915, pp. 174-84. See also DYES AND DYEING.

Thames: Bridges and Subways.

Recent Thames bridge and tunnel construction.—Engineering, 30 Apr. 1915, pp. 479-83; 21 May, pp. 565-7; 4 June, pp. 617-8; 18 June, pp. 667-8; 25 June, pp. 693-4, 84 figs.

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Thunderstorms. ["Origin of atmospheric electricity and thunderstorms."]-Engineering, 15 Jan. 1915, pp. 78-9.

Tin-Copper Alloys. See COPPER: Alloys.

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T. and its [deoxidizing] effects upon steel. By G. F. Comstock,— Jl. Soc. Chem. Ind. 30 Jan. 1915, pp. 55-7. Tobacco. See Cigar Manufacture and Trade.

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Phoma destructiva: the cause of a noit rot of the tomato. By Clara O. Jamieson.-Jl. Agric. Research, Apr. 1915, pp. 1-20, 8 pl. 5 tab.

Torpedoes. See Submarine Warfare.
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Transportation on land and sea. [A seventy years' review.]—Sci. Amer. 5 June, 1915, pp. 523-6, and p. 556, illus.

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Trypanosomiasis. Harald Seidelin.—Ann. Trop. Med. Mar. 1915, pp. 197-200, xperiments

Tuberculosis.

Guerre, La, et la lutte antituberculeuse. Allocution et conférences. Par L. Landouzy, Georges Kuss et Léon Bourgeois.—Rev. Scientifique, 12-19 June, 1915, pp. 225-42.

Tuberculosis in Animals.

Notes on the eradication of tuberculosis from dairy herds. By George Percy Male.-Jl. R. Sanitary Inst. May, 1915, pp. 163-8.

Tungsten: its occurrence and output.-Engineering, 16 Apr. 1915, pp. 442-3.

Turbines.

6250-kilowatt reaction turbine.-Engineering, 26 Mar. 1915, pp. 343-6; 9 Apr. pp. 399-400, 32 figs.

Geared turbine machinery of the "Transylvania."—Engineering, 29 Jan. 1915, pp. 132-7; 12 Feb. pp. 184-7, 36 figs. 2 pl. On the steady flow of steam through a nozzle or throttle [mainly

of interest as regards steam turbines]. By H. L. Callendar.— Jl. Inst. Mech. Eng. Feb. 1915, pp. 53-77.

Theory of the Tesla turbine.—Engineering, 16 Apr. 1915, p. 423, 5 figs.

Turbo-Generators. See ELECTRIC POWER PLANTS.

Turkey: Coast Defences.

Coast defences of Turkey. [From the Russian Artillery Journal, Aug. 1912.]—Jl. R. Artillery, Jan. 1913, pp. 196-201, and Jl. U.S. Artillery, Mar.-Apr. 1915, pp. 237-42.

Turkey in Asia. See Engineering: Mesopotamia.

Typhoid Fever: Preventive Inoculation.

Document sur la vaccination antityphoïdique par la voie gastro-intestinale. Par J. P. Dubarry.—C. R. Acad. Sci. 25 May, 1915, pp. 690-2. Fièvre paratyphoïde. Par J. P. Langlois.—Rev. Gén. des Sci.

30 Mar. 1915, pp. 175-80, 2 figs.

Laboratoire de vaccination antityphique de l'armée et la guerre de 1914-15. Par H. Benoit-Bazille.—La Nature, 12 June, 1915, pp. 377-82, 8 figs.

Preventive inoculation [against typhoid fever]. By G. Sims Woodhead. [With discussion.]—Jl. R. Sanitary Inst. Feb. 1915,

Ultra-violet Rays. See Glass: Optical, &c.; Water, Purification of. United States: Agricultural Education. See AGRICULTURAL EDUCA-TION: U.S.

United States: Coast Defences.

Service of security and information in coast defence. By William N. Porter.—Jl. U.S. Artillery, Jan.-Feb. 1915, pp. 83-94,

United States: Mines and Mineral Resources.

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Cwelfth century map of the universe [by Hildegard of Bingen, circa 1170 A.D.]. By Charles Singer.—Observatory, July, 1915, pp. 289-91, 1 pl.

Unloading. See LOADING AND UNLOADING.

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Are unvaccinated persons a danger to the community? By C. Killick Millard.—Jl. R. Sanitary Inst. Mar. 1915, pp. 91-7.

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Visibility

Visibility: notes on some practical aspects of the question [with discussion]. By Clifford C. Paterson and B. P. Dudding.—Illuminating Engineer, Lond. May, 1915, pp. 210-26, 4 figs.

Visibility. ["Factors which determine the ability of the eye to distinguish an object from its background."] By C[lifford] C. Paterson. Nature, 10 June, 1915, pp. 397-8. See also SEARCHLIGHTS.

Vision. See COLOUR VISION; VISIBILITY.

Vivisection.

What animal experimentation has done for children [in diphtheria, &c.]. By Henry Dwight Chapin.—Pop. Sci. Mthly. Jan. 1915, pp. 55-62.

Volcanoes.

Volcanic activity of Lassen Peak, California. By Ruliff S. Holway. [Eruption lasting from May, 1914, to 1915.]—Pop. Sci. Mthly. Mar. 1915, pp. 290-305, 8 figs.

Vulcanization of Rubber. See Indiarubber.

Waggons, Motor. See AUTOMOBILES.

War Rations. See FRANCE : Army-Commissariat.

Warships.

Guerre navale en 1914. Par L. E. Bertin.—La Nature, 6 Feb. 1915, pp. 80-91; 13 Feb. pp. 97-118, 42 figs.

Modern battle craft. By C. Wiener.—Fortn. Rev. Feb. 1915,

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Some notes on warships designed and constructed by Sir W. G. Armstrong, Whitworth & Co. By J. R. Perrett.—Trans. Inst. Engineers and Shipbuilders in Scotland, vol. 57, 1914, pp.

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Water Power: New England States. Water powers of New England. By Henry I. Harriman.-Gen. Electric Rev. May, 1915, pp. 358-65, 5 figs.

Water, Purification of.

Épuration de l'eau de boisson par l'hypochlorite de calcium. [Compressed in tablets with common salt. Water drinkable in fifteen minutes.] Par H. Vincent and — Gaillard.—C. R.

Acad. Sci. 12 Apr. 1915, pp. 483-6.
Purification of water by the ultra-violet rays. By M. von Reck-

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Waterproofing of Fabrics.

Imperméabilisation des tissus par imprégnation des éléments constitutifs. Observations sur les essais de résistance des tissus. Par Lucien Liais.—C. R. Acad. Sci. 1 Feb. 1915, pp. 176-8.

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In the days of Watt. By J. D. Cormack. [A digest of the James Watt Anniversary Lecture.]—Engineering, 5 Feb. 1915, pp. 178-80.

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Measurement of waves at sea. By Vaughan Cornish.—Field, 13 Feb. 1915, p. 266; Letter from R. E. Froude, 20 Feb.

p. 335; 27 Feb. p. 373, 1 fig. Waves, Damage by. See New Jersey: Storms.

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Popular misconceptions regarding the weather. By Andrew H. Palmer.—Pop. Sci. Mthly. Feb. 1915, pp. 128-41.

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On the strength of welds made by the oxy-acetylene process. By
A. Campion and Wm. C. Gray.—Trans. Inst. Engineers and
Shipbuilders in Scotland, vol. 57, 1914, pp. 534-73, 4 figs.

Oxy-acetylene welding. By A. H. Waychoff. ["How to make a
complete oxy-acetylene welding outfit."]—Sci. Amer. Suppt.

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Wells: Irrigation.

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Presentation of the Perkin medal to Dr. Edward Weston. [A pioneer in electrolysis and electrical engineering.]—Jl. Soc. Chem. Ind. 30 Apr. 1915, pp. 405-8.

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Pêcheries de baleines des Iles Falkland et de leurs dépendance Par A. Stevenson.—Rev. Gén. des Sci. 30 Mar. 1915, pp. 181-6, 5 figs.

Wheat from Egypt. ["Suitability of Egyptian wl port."]—Bull. Imp. Inst. Jan.-Mar. 1915, pp. 13-4. ["Suitability of Egyptian wheats for ex-See also FLOUR.

Wheels: Automobile. See AUTOMOBILES: Wheels.

Whirlwinds.

Origin of dust columns. By Col.—Field, 29 May, 1915, p. 925,

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Old Scottish laws relating to whisky. By H. Hammond Smith, [Supplements article in 'Lancet,' 1905.]—Field, 24 Apr. 1915.

Paradoxe anémométrique-Moulin à vent à axe vertical. force of the wind both entering and leaving the wheel.] Par R. Villers.—La Nature, 8 May, 1915, pp. 310-2, 3 figs.

Theory of the winds. By R. M. Deeley.—Phil. Mag. July, 1915, pp. 13-33, 10 figs.

Winnipeg.

W. as a railway centre. By Norman Thompson.—Railw. Mag. May, 1915, pp. 341-8, 10 figs.

Wire Rope Transportation.

Aerial ropeways.—Engineer, 15 Jan. 1915, pp. 53-5; 29 Jan. pp. 108-10; 5 Mar. pp. 222-5; 9 Apr. pp. 352-5; 16 Apr. pp. 375-6, illus.

Wireless Communication and Power Transmission.

Pure electron discharge and its application in radiotelegraphy and telephony. By Irving Langmuir. [A lecture before the Amer. Inst. of Radio-Engineers.]—Gen. Electric Rev. May, 1915, pp. 327-39, 10 figs.

Wireless transmission of energy By Elihu Thomson. [A lecture before the National Electric Light Assoc. N.Y.]—Gen. Electric Rev. May, 1915, pp. 316-27, 27 figs.

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Wireworms attacking cereal and forage crops. By J. A. Hyslop.-Bull. U.S. Dept. Agric. No. 156, Jan. 1915, 34 pp. 8 figs. 1 tab. Witkowitz. See Iron Works.

Witt (Otto Nikolaus), Chemist. Obituary.—Nature, 15 Apr. 1915, pp. 179-80.

Modern uses of wood. [Application as a building material.] By Hermann von Schrenk.—Jl. West. Soc. Eng. Jan. 1915, pp. 1-14,

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Wood: Preservation. Preservative treatment of wood. By W. B. Campbell.—Jl. Soc. Chem. Ind. 31 Mar. 1915, pp. 257-8.

Relative resistance of various conifers to injection with croosote. By C. H. Teesdale.—Bull. U.S. Dept. Agric. No. 181, Sept. 1914, 44 pp. 8 pl. 9 figs. 4 tab.

Worms. See EARTHWORMS.

Wounded: Transport. See France: Army-Transport of Sick and Wounded.

Possibilité d'entrainement de phosphore [iron phosphide] dans les plaies produites par les projectiles d'artillerie allemands. Victor Henri.—C. R. Acad. Sci. 11 Jan. 1915, pp. 82-3.

X-rays. By Wheeler P. Davey.—Gen. Electric Rev. Apr. 1915, pp. 258-63; May, 1915, pp. 353-8; July, pp. 625-30, illus. X-rays and crystals.—Engineering, 2 Apr. 1915, pp. 369-70.

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Localisation précise des projectiles dans le corps des blessés par voie radiographique ou radioscopique. Par E. Colardeau-Rev. Gén. des Sci. 15 Jan. 1915, pp. 5-12, 12 figs.

Recherche des projectiles dans l'organisme. Par Jacques Boyer. -La Nature, 10 Apr. 1915, pp. 241-8, 15 figs.

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Zoological Gardens: London.

Mappin terraces at the Zoological Gardens. [Adaptability of reinforced concrete as a building material under conditions that would render difficult the employment of other materials.]-Engineer, 12 Feb. 1915, pp. 156-7, 8 figs.

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Aspects of progress in modern [experimental] zoology. By E. B. Wilson. [Presidential address at the Amer. Assoc. for the [Presidential address at the Amer. Assoc. for the Adv. of Science.]-Nature, 21 Jan. 1915, pp. 574-9.

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Johnston (A. Langstaff), Steam heating (bis).

Jolly (J.), Radiotherapy.

Jones (Chapman), Photography: orthochromatic.

Jones (L. A.), Colour photography: apparatus,

&c.—testing.

&c.—testing.

Junge (F. E.), Gas and oil engines.

Kapteyn (Alb.), Photography: apparatus, &c.
Kell (Ernest), Micrometer.
Kellogg (L. O.), Mines, &c.: United States.
Kershaw (John B. C.), Aeronautics: military;
Copper industry, &c.; Explosives: military;
Poisons: military,
King (Charles R.), Mines, &c.: Russia.
King (Louis Vessot), Anemometer.
Knox (Howard A.), Intellect.
Korschelt (E.), Earthworms.
Kremers (Edward), Alcohol: denatured.
Külp (F.), Photography: ballistic.
Kuss (Georges), Tuberculosis.

Kuss (Georges), Tuberculosis.

La Cerisale (J. de), Iron works.
Lake (Simon), Submarine boats.
Landouzy (L.), Tuberculosis.
Landouzy (L.), Tuberculosis.
Landele (M.), Iodine: therapeutic uses.
Langle (C. H.), Agricultural education: U.S.
Langlois (J. P.), Typhoid fever, &c.
Langnuir (Irving), Wireless communication, &c.
Larson (C. W.), Canal boats: electric traction.
Lathrop (Elbert C.), Fertilizers, &c.
Latour (C.), Dog, &c.
Launay (L. de), France: industries.
Lawrence (W. F.), Railways: traffic.
Le Chateller (Henri), Explosives: testing.
Ledger (P. G.), Searchlights.
Lewin (K. R.), Soils: protozoa.
Liais (Lucien), Waterproofing of fabrics.
Liston (John), Electric apparatus, &c.
Liveing (G. D.), Sell (Wm. James).
Liverseege (J. F.), Cereals: polishing.
Lockyer (Sir Norman), Stars: classification.
Longbottom (John G.), Copper: alloys.
Luckiesh (M.), Photography: artificial light.
Lummis (Henry T.), Razors.

Luckiesh (M.), Photography: artificial light.
Lummis (Henry T.), Razors.

Macaulifie (Jeremiah Lee), Patents.

McClendon (J. F.), Parthenogenesis: artificial.

McDowell (C. S.), Searchlights.

Mackall (K. W.), Street signs: electric.

MacLennan (Kenneth), Soils: liming.

McLeary (Samuel H.), Coast defences.

Male (George Percy), Tuberculosis in animals.

Mann (Albert), Barley.

Martin (C. H.), Soils: protozoa.

Martin (G. H.), Soils: protozoa.

Martin (G. H.), Soils: protozoa.

Martin (G. H.), Panpana Canal.

Mannus (—), Dr., Tetanus.

Mason (Lewis A.), Panama Canal.

Maumus (—), Dr., Tetanus.

Maxwell (J. E.), Mars.

Meadows (Wm. R.), Cotton: sea island.

Mees (C. E. Kenneth), Photographic physics;

Photography: apparatus, &c.—testing.

Megraw (H. A.), Copper: metallurgy.

Mellanby (A. L.), Petroleum as fuel.

Merie (René), France: army—transport of sick, &c.

Merriam (John C.), Paleontology.

Milliar (H. T.), Belts and belting.

Milliar (H. T.), Belts and belting.

Milliar (E. A.), Agricultural education, U.S.

Miller (Warren H.), Steam engine.

Millor (M. T.), Milk: preserved.

Mohler (John R.), Glanders.

Moir (J. Reid), Man, antiquity of.

Molony (E. A.), Irrigation: India.

Morgan (J. D.), Combustion, theory of.

Morrell (R. S.), Oils: drying.

Moulton (Fletcher), Baron, Dyes, &c.

Murray (W. S.), Railways: electrification. Netter (J.), Artillery.
Newkirk (Bert. L.), Gyroscope.
Northrup (E. F.), Electric conductivity.
Nutting (P. G.), Photography: apparatus, &c.— O'Hern (Edward P.), Artillery.
Olden (Charles), Emerald mining.
Ollendorff (Heinrich), Docks.
Olsen (J. C.), Ozone: physiological effect.
Onslow (H.), Albinos, &c.; Colour of hair.
Osborn (Albert S.), Forgery. Osborn (Albert S.), Forgery.

Page (Logan Waller), Roads.

Palmer (Andrew H.), Weather.

Palmer (R. C.), Distillation: destructive.

Parker (Wm. B.), Insecticides.

Paterson (Clifford C.), Visibility (bis).

Pearce (Wm.), Dyes, &c.

Perkin (William Henry), Chemicals: manufacture,

&c.—England. &c.—England.

Perkins (F. Mollwo), Indigo.

Perkins (H. F.), Colour photography.

Perrett (J. R.), Warships.

Perrotin (H.), Photography: instantaneous.

Phillips (H. de T.), Aeronautics: military.

Phillips (S. Charles), Paper making, &c.

Piper (C. V.), Beans: new species.

Piper (C. Wellborne), Colour photography: threecolour process; Photography: fixing.

Pittard (Eugène), Anthropometry.

Platt (S. S.), Sewerage.

Plimmer (H. C.), Spirals.

Plummer (H. C.), Stars: clusters.

Pollen (A. H.), Submarine warfare.

Porter (L. C.), Projectors: optical; Street signs:
electric. England. electric.
Porter (Wm. N.), United States; coast defences.
Price (S. Reginald), Plants: evolution.
Prideaux (E. B. R.), Chemistry: study, &c.
Pring (J. N.), Ozone.
Purves (George Thomson), Distillation: destructive.
Purvis (J. E.), Poisons: military.
Pycraft (W. P.), Anthropology. Pycratt (W.P.), Anthropology.

Rayleigh (Baron). See Strutt (John Wm.).

Read (A. A.), Steel: alloys.

Recklinghausen (M. von), Water, purification of.

Reeve (H. T.), Glass: optical, &c.

Reverchon (Léopold), Clocks, &c.: escapements.

Roberts (John W.), Fruit trees: diseases. Robinson (R. H. M.), Submarine warfare. Rolfe (Geo. W.), Glucose, &c. Roscoe (Sir Henry), Chemicals: manufacture, &c.— Roscoe (Sir Henry), Chemicals: manufactor Germany.
Ross (Sir Ronald), Discovery: scientific.
Ross (Wm. H.), Radioactivity.
Rusby (H. H.), Radioactivity.
Russell (Edward John), Soils: physics.
Ryan (W. D'A.), Electric lighting.
Rypinski (M. C.), Colour photography. Sabine (Wallace C.), Architectural acoustics. Salamon (M. S.), Waxes.
Salt (E. A.), Photography: artificial light. Salter (Carle), Rain and rainfall.
Sands (W. N.), Cotton: sea island.
Sasseer (E. R.), Seeds: disinfecting.
Schicesing (Th.), Artillery: field, &c.
Scheeller (W. R.), Sulphides: metallurgy.
Schreiner (Oswald), Soils: toxic constituents.
Schrenk (Hermann von), Wood.
Schwetz (J.), Mosquito. Schwetz (J.), Mosquito. Scobey (Fred. C.), Irrigation. Scott (E. Kilburn), Nitrates: electrolytic production.
Seaber (W. M.), Waxes.
Searle (Alfred B.), Refractory materials.
Seldelin (Harald), Trypanosomiasis.
Shaw (Harry B.), Fertilization of plants.
Shufeldt (R. W.), Birds: fossil.
Sleveking (A. Forbes), Canals: locks.
Silverman (Alexander), Glass: optical, &c.
Singer (Charles), Universe, ware contact. Silverman (Alexander), Glass: optical, &c.
Silverman (Alexander), Glass: optical, &c.
Silverman (Alexander), Glass: optical, &c.
Singer (Charles), Universe: maps.
Skinner (J. J.), Soils: toxic constituents (bis).
Smith (H. Hammond), Whisky.
Smith (W. H.), Photography: artificial light.
Smith (Waren S.), New Jersey: storms.
Smill (Judson G.), Glass: opalescence.
Snelling (Walter O.), Petrol.
Soddy (Frederick), Atomic theory.
Sommerfeld (Vernon), Army: transport service.
Southwell (R. V.), Machinery: balancing.
Stanler (W. A.), Railway signalling, &c.
Stephens (J. W. W.), Blackwater fever.
Stevens (Henry P.), Indiarubber.
Stevenson (A.), Whaling.
Stewart (Guy R.), Algæ as fertilizers.
Stott (W.), Blackwater fever.
Strutt (John Wm., Baron Rayleigh), Æolian harp.
Stuart (Wm.), Potatoes: classification.
Taylor (Fred.), Cotton fibre. Taylor (Fred.), Cotton fibre.
Taylor (W. P.), Gold mines, &c.
Teesdale (C. H.), Wood: preservation.
Thompson (Norman), Winnipeg.

Thomson (Elihu), Wireless communication, &c. Thomson (J. Arthur), Eugenics.
Thornton (H. M.), Gas: industrial uses.
Tilden (W. A.), Poisons: military.
Tilley (F. W.), Disinfection: hides.
Toch (Maximilian), Corrosion, &c.
Torrens (J. H.), Coffee: growing.
Tripp (E. Howard), Sewage: disposal.
Tristran (J. F.), Telephotography.
Trotter (A. P.), Rifle ranges.
True (R. H.), Cigar manufacture, &c.
Turner (W. F.), Dairying.
Turrentine (J. W.), Fertilizers, &c.
Ulrich (Wm. H.), Ozone: physiological effect. Ulrich (Wm. H.), Ozone: physiological effect.
Van Deventer (J. H.), Projectiles,
Vayssière (P.), Plants: diseases,
Veihmeyer (F. J.), Mushrooms,
Véron (Henri), Petroleum as fuel,
Vichniak (J.), Minos: military,
Villers (R.), Windmills.
Villy (Francis), Roads: Roman,
Vincent (H.), Water, purification of,
Vincent (J. H.), Harmonograph.
Wade (Herbert T.), Petrol: storage,
Waggaman (Wm. H.), Fertilizers, &c. (bis),
Wallis (C. Edward), Dentistry,
Ward (C. A.), Submarine boats.
Wardleworth (T. H.), Chemicals: manufacture,
&c.—Canada. Ulrich (Wm. H.), Ozone: physiological effect. Wardleworth (T. H.), Chemicals: manufacture, &c.—Canada.
Watts (W. Marshall), Spectrum analysis.
Waychoff (A. H.), Welding.
Webb (Wilfrid Mark), Gun flints.
Webster (Gordon C.), Steam: condensation.
Wheeler (H. D.), Machinery: balancing.
Whipple (Robert S.), Solar radiation.
White (W. C.), Telephone: wireless.
Wiener (C.), Warships.
Wight (W. F.), Plum (bis).
Wilcock (Arthur), Textile design.
Wilkinson (W. T.), Photolithography.
Willey (Day Allan), Steamboats.
Williamson (H. A.), Abortion in animals.
Williamson (H. A.), Photographic copying apparatus. Williamson (H. A.), Protographic copying apparatus.
Willoughby (W. M.), Rats, &c.
Willough (W., Railway signalling, &c.
Wilson (E. B.), Zoology.
Wilson (L. C.), Corrosion, &c.
Woodhead (G. Sims), Typhoid fever, &c.
Woodward (T. E.), Dairying.
Woolsey (Theodore S.), Pine.
Wyman (Wm. L.), Patent law: United States, &c.
Young (W. J.), Metabolism. Young (W. J.), Metabolism. Zahm (A. F.), Aeronautics : experimental.

## LIST OF ABBREVIATIONS OF PERIODICALS CITED, WITH PUBLISHER'S NAME OR ADDRESS.

Aeron. Jl .- Aeronautical Journal. Arn. Trop. Med.—Annals of Tropical Medicine and Parasitology. (57, Ashton St., Liverpool.) Antiquary .- Antiquary. (Stock.) Architect.—Architect, &c. (Ludgate Circus, E.C.)
Architectural Assn. Jl.—Architectural Association Journal. (18, Tufton St., Westminster.)
Arms and Explosives.—Arms and Explosives.
(1, Arundel St., Strand.) Asiatic Rev.—Asiatic Review.
(3, Victoria St., S.W.) Brit. Jl. Phot.—British Journal of Photography. (24, Wellington St., W.C.) British Rev.—British Review. (14, Henrietta St., W.C.) Building News .- Building News. Building News.—Building News.

(Arundel St., W.C.)

Bull. Imp. Inst.—Bulletin of the Imperial
Institute. (Murray.)

Bull. U.S. Dept. Agric.—Bulletin of the United
States Department of Agriculture.
(Superintendent of Documents, Washington.)

Cambridge Rev.—Cambridge Review.

(Cambridge) (Cambridge.) Chambers's Jl.—Chambers's Journal (38, Soho Sq.) C. R. Acad. Sci.—Comptes Rendus hebdomadaires des Séances de l'Académie des Sciences. (Gauthier-Villars et Cie.) Devon. Year-Book.—Devonian Year-Book.

(4. Stationers' Hall Court.)

Dublin Rev.—Dublin Review. (Burns & Oates.)

Economist.—Economist. (3, Arundel St., W.C.) Empire Rev.—Empire Review.
(St. Martin's St., W.C.)
Engineer.—Engineer.
(33, Norfolk St., W.C.)

Engineering.—Engineering. (35-6, Bedford St., W.C.) Engineering. (35-6, Bedford St., W.C.)
Engineering Mag.—Engineering Magazine. (140, Nassau St., N.Y.)
Field.—Field (Bream's Bldgs, E.C.)
Fortn. Rev.—Fortnightly Review. (11, Henrietta St., W.C.)
Gen. Electric Rev.—General Electric Review. (Schenectady, N.Y.) Gen. Electric Rev.—General Electric Review.

(Schenectady, N.Y.)

Illuminating Engineer (Lond.). — Illuminating
Engineer (London). (32, Victoria St., S.W.)

Ironmonger.—Ironmonger. (42, Cannon St., E.C.)

Jl. Agric. Research.—Journal of Agricultural
Research. (U.S. Department of Agricultural
Lagric. Sci.—Journal of Agricultural Science.) Jl. Agric. Sci.—Journal of Agricultural Science.

(Cambridge University Press.)

Jl. Franklin Inst.—Journal of the Franklin Institute.

(Philadephia.)

Jl. Inst. Mech. Eng.—Journal of the Institution of Mochanical Engineers Mechanical Engineers. (Storey's Gate, S.W.) Jl. Inst. Municipal Eng.—Journal of the Institu-Mechanical Engineers. (Story's Gate, S.W.)

JI. Inst. Municipal Eng.—Journal of the Institution of Municipal and County Engineers.

(92, Victoria St., S.W.)

JI. R. Artillery.—Journal of the Royal Artillery.

(Royal Artillery Institution, Woolwich.)

JI. Roy. Hort. Soc.—Journal of the Royal Horticultural Society. (Vincent Sq., S.W.)

JI. R. Sanitary Inst.—Journal of the Royal
Sanitary Institute. (12-14, Long Acre.)

JI. Roy. Soc. Arts.—Journal of the Roya' Society
of Arts. (G. Bell & Sons.)

JI. Soc. Chem. Ind.—Journal of the Society of
Chemical Industry. (Vacher & Sons.)

JI. U.S. Artillery.—Journal of the United States
Artillery. (B. F. Stevens & Brown.)

JI. West. Soc. Engineers.—Journal of the Western
Society of Engineers. (Chicago, Ill.)

Knowledge.—Knowledge.

(42, Bloomsbury Sq., W.C.)

La Nature.—La Nature. (Paris.)

Motor Boat.—Motor Ship and Motor Boat.

(7-15, Rosebery Avenue.) Motor Traction .- Motor Traction. Shipbuilders in Scotland. (Glasgow.) United Empire.—United Empire.

Motor Traction.—Motor Traction.

Nature.—Nature. (Macmillan & Co.)
Notes and Q.—Notes and Queries.
(11, Bream's Bldgs., E.C.)
Observatory.—Observatory. (Taylor & Francis.)
Optician.—Optician. (123, Fleet St., E.C.)
Phil. Mag.—Philosophical Magazine.
(Taylor & Francis.)
Phot. Jl.—Photographic Journal, including the
Transactions of the Royal Photographic Society
of Great Britain. (45, Pall Mall, S.W.)
Pop. Sci. Mthly.—Popular Science Monthly.
Quart. Jl. R. Meteorological Soc. — Quarterly
Journal of the Royal Meteorological Society.
(Stanford.) (Stanford.) Railw. Mag.—Railway Magazine.
(30, Fetter Lane, E.C.) Rev. Gén. des Sci.—Revue Générale des Sciences. (O. Doin.) Rev. Scientifique.—Revue Scientifique (Revue Rev. Scientifique.—Revue Scientifique (Revue Rose). (Paris.)
R. Eng. JI.—Royal Engineers' Journal.
(Norfolk House, Victoria Embankment.)
Sci. Amer.—Scientific American. (Munn & Co.)
Sci. Amer. Suppt.—Scientific American Supplement. (Munn & Co.)
Sci. Prog.—Science Progress. (Murray.)
Times.—Times. (Printing House Sq., E.C.)
Trans. Inst. E g. and Shipbuilders in Scotland.—
Transactions of the Institution of Engineers and Shipbuilders in Scotland. (Glaszow.)

Wireless World.—Wireless World. (Marconi House, Strand.

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